

PROJECT DESCRIPTION

I. GENERAL DESCRIPTION

THIS PROJECT INVOLVES THE MODIFICATION OF AN EXISTING TRAFFIC SIGNAL AT THE INTERSECTION OF US 50 (OCEAN GATEWAY) AND MD 452 (FRIENDSHIP ROAD)/SEAHAWK ROAD IN WORCESTER COUNTY TO ACCOMMODATE A SECOND LEFT-TURN LANE ALONG WESTBOUND US 50. US 50 (OCEAN GATEWAY) IS ASSUMED TO RUN IN AN EAST - WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION SHALL CONTINUE TO OPERATE IN A NEMA FIVE (5) PHASE, FULLY-ACTUATED MODE. THE EASTBOUND LEFT AND WESTBOUND DOUBLE LEFT MOVEMENTS ALONG US 50 (OCEAN GATEWAY) SHALL OPERATE AS A LEAD/LAG PHASE WITH THE EASTBOUND LEFT-TURN MOVEMENT AS A LEAD PHASE AND THE WESTBOUND LEFT-TURN MOVEMENT AS A LAG PHASE. THE NORTHBOUND AND SOUTHBOUND MOVEMENTS SHALL OPERATE IN A SPLIT PHASE.

III. CONTROLLER REQUIREMENTS

EXISTING CONTROLLER HOUSED IN A NEMA SIZE SIX (6) BASE-MOUNTED CABINET TO BE REPLACED WITH A NEMA EIGHT-PHASE, FULLY-ACTUATED CONTROLLER HOUSED IN A TYPE "S" BASE MOUNTED CABINET. INSTALL WITH BATTERY BACKUP, PHONE DROP AND ALL NECESSARY EQUIPMENT FOR AN UNDERGROUND FEED BY DELMARVA.

IV. SPECIAL NOTES

- THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
- ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MSHA STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
- THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO INSTALLING PROPOSED SIGNAL EQUIPMENT. IF ANY UTILITY CONFLICTS SHOULD ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
- ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.01, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
- SHA SIGNAL SHOP SHALL BE RESPONSIBLE FOR INSTALLING THE VIDEO INTERFACE EQUIPMENT. THE CONTRACTOR SHALL CONTACT ED RODENHIZER AT THE SIGNAL SHOP (410)-787-7650 TO COORDINATE THIS EFFORT.
- DURING THE CONSTRUCTION PHASE IN WHICH THE WESTBOUND MAST ARM SIGNAL HEADS ARE BEING REWIRED, THE INTERSECTION CONTROL WILL BE UNDER THE AUTHORITY OF THE STATE POLICE. THE CONTRACTOR SHALL COORDINATE WITH SHA AND MSP TO SCHEDULE MSP SUPPORT.
- THE FOLLOWING IS THE SEQUENCE OF CONSTRUCTION FOR THE INSTALLATION OF THE PROPOSED EAST LEG SIGNAL POLE:
A. INSTALL PROPOSED SIGNAL POLE AND EASTBOUND MAST ARM AND ASSOCIATED EQUIPMENT
B. REMOVE EXISTING EASTBOUND MAST ARM
C. INSTALL PROPOSED NORTHBOUND/SOUTHBOUND MAST ARM AND ASSOCIATED EQUIPMENT
D. REMOVE EXISTING NORTHBOUND/SOUTHBOUND MAST ARM AND SIGNAL POLE
- CONTRACTOR SHALL TAKE EXTRA CAUTION WHEN EXCAVATING AROUND THE EXISTING FIBER OPTIC LINE.
- ALL EXISTING VIDEO CAMERAS AND VIDEO INTERFACE EQUIPMENT TO BE REPLACED WITH IP-BASED VIDEO DETECTION CAMERAS AND ASSOCIATED INTERFACE EQUIPMENT.
- SEE SIGNING AND PAVEMENT MARKING PLANS FOR DETAILED GROUND MOUNTED SIGNING AND PAVEMENT MARKING INFORMATION.

PROJECT CONTACTS

THE CONTACT PERSONS FOR SHA ARE AS FOLLOWS:

DISTRICT 1:

KENNETH CIMINO
ASSISTANT DISTRICT ENGINEER,
TRAFFIC
410-677-4040

BRUCE W. POOLE
ASSISTANT DISTRICT ENGINEER,
UTILITIES
410-677-4082

WAYNE WEICHMAN
ASSISTANT DISTRICT ENGINEER,
MAINTENANCE
410-677-4010

OFFICE OF TRAFFIC AND SAFETY:

Ms. Coran Johnson
DIVISION CHIEF,
TRAFFIC OPERATIONS
410-787-7630

VACANT
ASSISTANT DIVISION CHIEF,
TRAFFIC OPERATIONS
410-787-7631

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
410-787-7652

MR. EUGENE BAILEY
CHIEF, SIGN OPERATIONS
410-787-7676

MR. MIKE STOCKER
SIGNAL SHOP WAREHOUSE
410-787-7696

EQUIPMENT LIST "A"

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

CATEGORY CODE NO.	QUANTITY	DESCRIPTION
900000	1 EA	FURNISH CONTROLLER CABINET, SIZE 'S' W/ CTRL. VIDEO INT. 1-8 CAMERAS
973023	23 SF	FURNISH OVERHEAD SIGNS 2 - R3-5(L) (30"x36") 1 - R3-5(R) (30"x36")

EQUIPMENT LIST "B"

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR

CATEGORY CODE NO.	SPECIFICATION NUMBER	QUANTITY	DESCRIPTION
585625	549,556	130 LF	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
585700	549,556	280 LF	REMOVAL OF EXISTING PAVEMENT LINE MARKINGS, ANY WIDTH
800000	810	3300 LF	DISCONNECT, PULLBACK, AND REROUTE CABLE
800000	823	1 LS	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
800000	800	4 EA	IP-BASED VIDEO DETECTION CAMERA AND CABLES
801711	822	8 CY	CONCRETE FOR SIGNAL FOUNDATION
802501	804	1370 LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
805115	805	120 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
805118	805	340 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED
805125	805	40 LF	2 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805135	805	870 LF	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
805140	805	25 LF	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
807500	807	1 EA	EMBEDDED METERED SERVICE PEDESTAL
810022	810	65 LF	ELECTRICAL CABLE - 1 CONDUCTOR (NO. 8 AWG) THHN/THWN
810605	810	4 EA	NONINVASIVE DETECTOR, 1000 FOOT LEAD IN CABLE
811001	811	9 EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
813015	813	93 SF	INSTALL OVERHEAD SIGN
816215	800	1 EA	OPTICOM NO.721, DETECTOR EYE
818051	818	1 EA	STEEL POLE WITH TWIN 50 FOOT AND 70 FOOT MAST ARMS
837001	804	10 EA	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH
860284	814	32 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
860288	810	195 LF	FURNISH AND INSTALL 4 CONDUCTOR OPTICOM CABLE
861107	810	1360 LF	ELECTRICAL CABLE- 5 CONDUCTOR (NO. 14 AWG)
861108	810	400 LF	ELECTRICAL CABLE- 7 CONDUCTOR (NO. 14 AWG)
871117	816	1 EA	INSTALL EIGHT PHASE (FULLY ACTUATED) CONTROLLER AND CABINET BASE MOUNT

EQUIPMENT LIST "C"

C. EQUIPMENT TO BE RETURNED TO THE SHA.

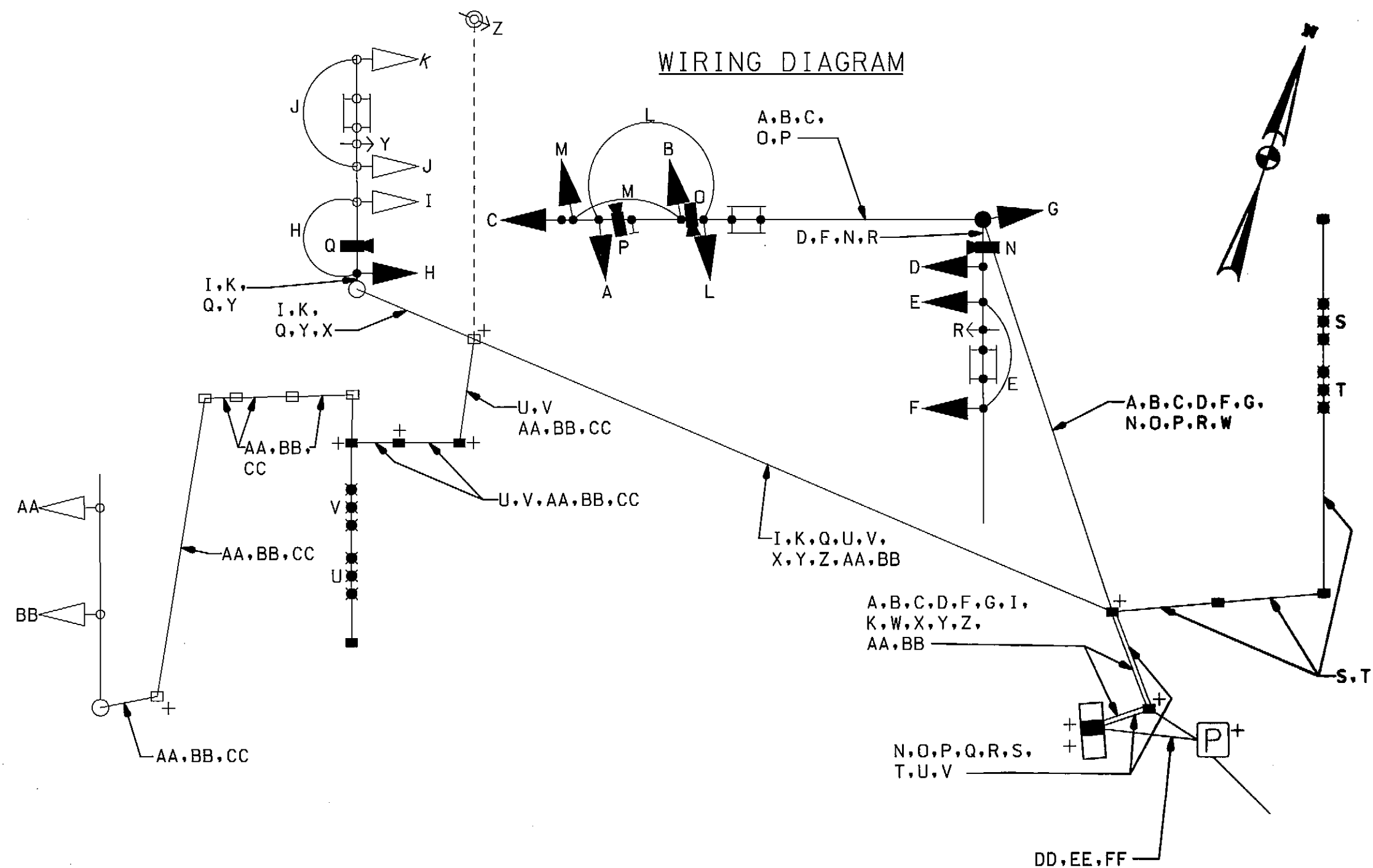
QUANTITY	DESCRIPTION
4 EA	VIDEO DETECTION CAMERA
1 EA	OPTICOM NO.721, DETECTOR EYE
29 EA	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION
1 EA	VIDEO INTERFACE EQUIPMENT

PHASE CHART

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

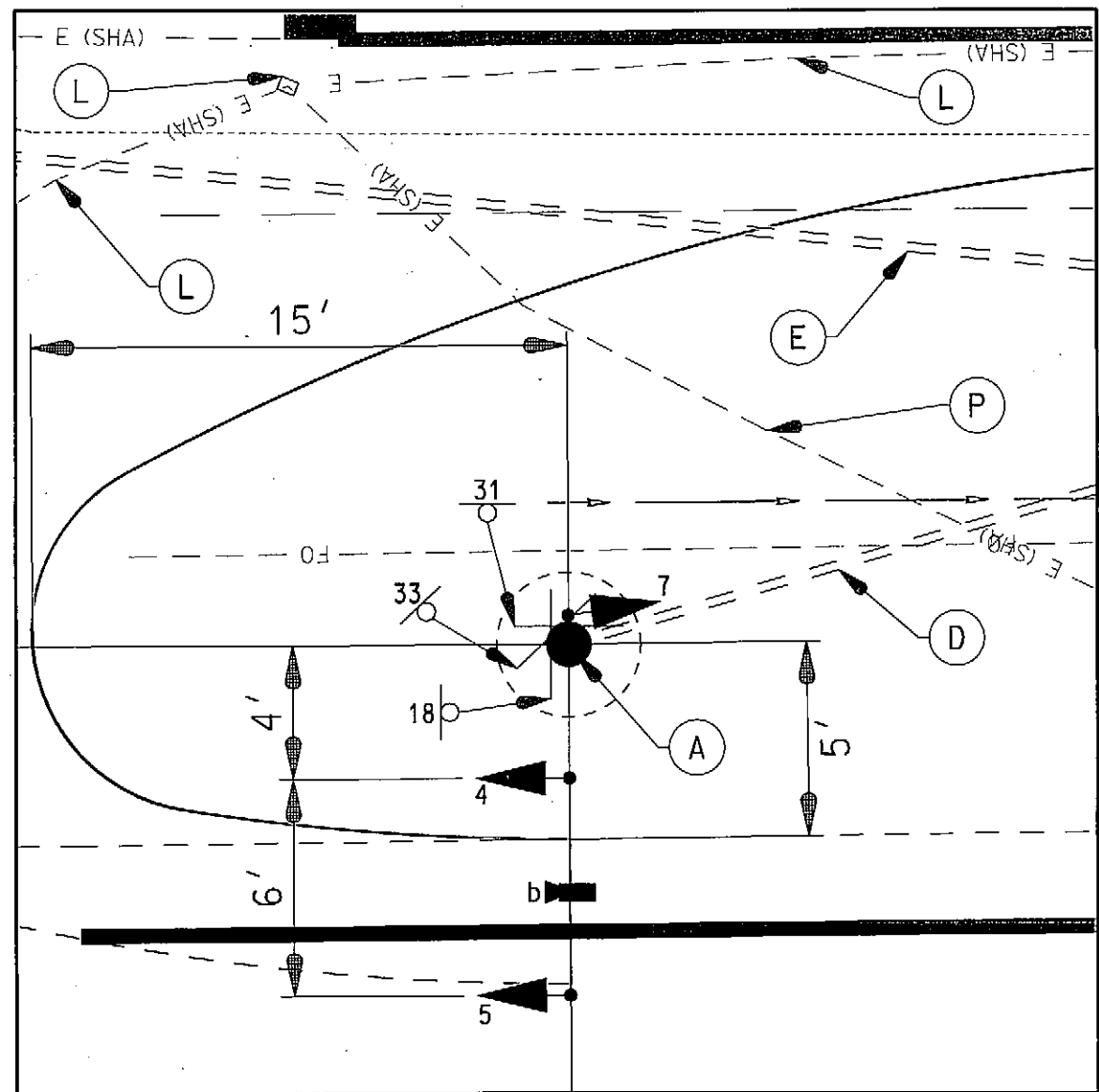
PHASE 1 AND 6	FL/Y	FL/Y	←G-	←G-	G	G	←R-	←R-	←R-	R	R	R	R	R	R	
1 & 6 CHANGE	FL/Y	FL/Y	←Y-	←Y-	Y	Y	←R-	←R-	←R-	R	R	R	R	R	R	
PHASE 2 AND 5	FL/Y	FL/Y	←R-	←R-	R	R	←G-	←G-	←G-	G	G	R	R	R	R	
2 & 5 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	←Y-	←Y-	←Y-	Y	Y	R	R	R	R	
PHASE 2 & 6	FL/Y	FL/Y	←R-	←R-	G	G	←R-	←R-	←R-	G	G	R	R	R	R	
2 & 6 CHANGE	FL/Y	FL/Y	←R-	←R-	Y	Y	←R-	←R-	←R-	Y	Y	R	R	R	R	
PHASE 3	FL/Y	FL/Y	←R-	←R-	R	R	←R-	←R-	←R-	R	R		G	R	R	
3 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	←R-	←R-	←R-	R	R	Y	Y	R	R	
PHASE 4	FL/Y	FL/Y	←R-	←R-	R	R	←R-	←R-	←R-	R	R	R	R		G	
4 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	←R-	←R-	←R-	R	R	R	R	Y	Y	
PRE EMPT 1	FL/Y	FL/Y	←G-	←G-	G	G	←R-	←R-	←R-	R	R	R	R	R	R	
PRE EMPT 1 CHANGE	FL/Y	FL/Y	←Y-	←Y-	Y	Y	←R-	←R-	←R-	R	R	R	R	R	R	
PRE EMPT 2	FL/Y	FL/Y	←R-	←R-	R	R	←G-	←G-	←G-	G	G	R	R	R	R	
PRE EMPT 2 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	←Y-	←Y-	←Y-	Y	Y	R	R	R	R	
PRE EMPT 3	FL/Y	FL/Y	←R-	←R-	R	R	←R-	←R-	←R-	R	R	R	R		G	
PRE EMPT 3 CHANGE	FL/Y	FL/Y	←R-	←R-	R	R	←R-	←R-	←R-	R	R	R	R	Y	Y	
FLASHING OPERATION	FL/Y	FL/Y	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	

WIRING DIAGRAM



WIRING LEGEND

A.B	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	S.T.U.V	MICRO-LOOP LEAD IN CABLE
C.D.E.F.G.H, I.J.K.L.M	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)	W.X.CC	BARE COPPER GROUND WIRE (NO. 6 AWG)
N.O.P.Q	VIDEO DETECTION CABLE	Y.Z.AA.BB	EXISTING CABLE TO BE REROUTED
R	OPTICOM DETECTION CABLE	+	GROUND ROD
		DD.EE.FF	1-CONDUCTOR ELECTRICAL CABLE (NO. 8 AWG)



DETAIL "B"
SCALE: 1"=5'

REVISION 'H' CONSULTANT



WALLACE MONTGOMERY
ENGINEERS-PLANNERS-SURVEYORS-CONSTRUCTION MANAGERS

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A Limited Liability Partnership



STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
**US 50 AND MD 452/
SEAHAWK ROAD**
BERLIN, MARYLAND

GENERAL INFORMATION

SCALE: N.T.S. DATE: FEBRUARY 2013 CONTRACT NO.: WO2255187

DESIGNED BY: DMJ COUNTY: WORCESTER
DRAWN BY: DMJ LOGMILE: 23005008.38
CHECKED BY: JLR T.I.M.S. NO.: L459
F.A.P. NO.: SEE TITLE SHEET TOD NO.:

DRAWING NO. 5G-02 OF 02 SHEET NO. 19 OF 24